

Missouri Savanna and Open Woodland Community WHAG Model Instructions

Savanna and Open Woodland:

This model is intended to evaluate the condition of wildlife habitat on existing or degraded savanna and/or open woodland communities. Both savannas and woodlands are unique natural communities found in Missouri. Refer to the Restoration and Management of Declining Habitats standard (643) for technical descriptions of these communities. Planners are strongly encouraged to consult with the Area Biologist when determining whether a site is woodland or savanna or other natural community. Planners are also encouraged to consult with the Area Biologist when completing the WHAG.

Use the Forest Community WHAG if the landowner's goal is to maintain a forest or woodland community without frequent prescribed burning. This model is not intended for use with silvopasture systems, orchards or nut tree groves.

Planned conditions should be based on when the contract expires or what you expect the site to look like 10 years from the initial evaluation.

- 1. Native Herbaceous Ground Cover** (summer conditions (June-July))
 - Calculate the percent of the ground covered by native herbaceous plants (grasses, forbs, native legumes, sedges, etc...). Do not include non-native plants in your ground cover estimation.
 - WHAG automatically scores below a 0.50 if the site has greater than 50% non-native herbaceous ground cover.

- 2. Tree Size Class**
 - Evaluate the average diameter at breast height (DBH) for the trees in the area. Consider the site index and growth potential of the trees when scoring. Sites with low site indexes may never support large diameter trees (saw timber or larger). Score accordingly.

- 3. Woody Canopy Coverage**
 - Use appropriate column for the community being managed.
 - Consider all trees within the savanna or woodland area being evaluated.
 - The planned woody canopy coverage should be 10 to 30% for savannas and 30 to 80% for woodlands. The canopy coverage should not be equally distributed across the entire area. Take in account topography and aspect when planning thinning levels. Consult with Area Biologist or refer to information and job sheets for additional guidance.

- 4. Savanna or Open Woodland Tree Composition**
 - Characteristic savanna and woodland trees include oak, hickory and shortleaf pine where native. Other savanna or woodland trees, but less abundant than oak, hickory or pine include black cherry, persimmon, and sassafras.
 - A good mix of oak and hickory and/or shortleaf pine (where native) would score 10 points. Characteristic savanna/woodland trees should make up at least 75% of the existing or planned overstory canopy to score 10 points.

- Score 6 points if the tree canopy is dominated by a single specie (oak, hickory or pine). A specie will need to comprise at least 10% of the overstory canopy to count.
- Score 3 points if less than 75% of the existing or planned overstory canopy is made up of characteristic woodland or savanna trees.
- Score 0 if woodland/savanna is a single specie planting or the tree canopy is dominated by pioneer species (eastern red cedar, Osage orange, elm, maple, locust, etc...). Does not apply for planned conditions.

5. Grazing or Haying Pressure

- To receive 10 points no grazing or haying is allowed. The savanna/woodland must also be maintained by periodic prescribed burns to receive 10 points.
- Light to moderate grazing is defined as meeting the NRCS 528 standard, table 1, column 5 and would include grazing for only a few days during the growing season or grazing one year (still meeting 528) and resting the next. Grazing should be avoided between May 1st and July 15th unless grazing is necessary during this time of the year to restore native vegetation. Periodic prescribed burning is also required to score 5 points.
- Grazing a savanna or woodland should only be done to benefit habitat, not for forage production. For example grazing in the spring to control scattered patches of non-native cool-season grasses. Grazing should be avoided during the primary nesting season. Consult with the Area Biologist when this may occur.
- Heavy grazing and all other uses would score zero points (not meeting the 528 minimum grazing heights). If no burning has occurred then score zero points. Does not apply for planned conditions.
- NRCS standard 528 has a minimum grazing height for native grasses of 8-10 inches.

6. Grassland Composition (summer conditions (June-July))

- A native grass specie must comprise at least 5% of the grassland composition to count as a specie in the mix. Native forbs and/or native legumes shall comprise 10 to 75% of the canopy coverage to receive the 10 points.
- Native grassland with less than 10% or greater than 75% forb canopy coverage or a native grassland with 25 to 50% nonnative vegetation would score only 4 points.
- Grassland with greater than 50% nonnative vegetation or a native grass monotype would score 0 points and does not apply for planned conditions.
- Consider the impact of management on grassland composition. Management practices should improve the grassland compositions.

7. Native Forb/Legume Diversity (summer conditions (June-July))

- Estimate the number of native herbaceous species on the evaluated site. Count a species if a single plant is found. Consider past uses and current conditions (grazing, logging, closed canopy savanna/woodland, planted versus restored savanna, etc...) when estimating native forb diversity.
- A degraded, closed canopy woodland or savanna with no management will have very few species persisting under the current conditions.
- Determine the planned conditions based on the planned management activities and presence of remnant plants in the evaluated area. Remnant plants, which may give some insight into the sites potential, are often found along trails, roads, open areas, blow downs, and clearings.

- A well-managed savanna or woodland will have as many as 300 different vascular plants. Depending on the site's history (grazing, logging, cropped, etc...) it may take 20 or more years of active management to restore a diverse plant community. Native plant diversity can be improved with active management such as thinning, use exclusion, invasive specie control, interseeding native forbs, and/or reintroducing prescribed burning.
- Noxious weeds, sericea lespedeza, non-native legumes and non-native forbs should not be included in the evaluation.

8. Understory Woody Canopy Coverage

- Use appropriate column for the community being managed.
- Evaluate understory woody vegetation that is 3 to 20 feet in height (shrubs and small trees). Well-managed savannas typically have a poorly developed understory with a few scattered shrubs and small trees. Woodlands will also have a poorly develop to open understory that still allows sunlight to reach the ground.
- Frequent prescribed burning (every 1 to 3 years) is often necessary to control woody sprouts in the understory of degraded woodlands and savannas during the restoration phase.

9. Problem Introduced Species

- If any one, or combination, of these species represents 10% or more of the field, score zero points. Does not apply for planned conditions.
- Consider all non-native species that present a management problem to be invasive. This could include other species not listed on the WHAG.
- If a specie is common or abundant it will be difficult to completely eradicate the specie from the site. Score accordingly.

10. Managed Savanna or Woodland Size

- 5 points if the evaluated savanna and/or woodland is greater than 20 contiguous acres.
- 3 points if less than 20 contiguous acres, but is adjacent to other natural communities being managed (glade, savanna, woodland, prairie, riparian, wetland) which when combined, equal more than 20 contiguous acres.
- Score 0 points if less than 20 contiguous acres of managed savanna and/or woodland and other natural communities being managed.
- Only consider communities under the applicant's control. Do not include habitats on adjacent landowners.